

## Credentialing Criteria No. 3: Peripheral and Visceral Arteriography

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Peripheral and visceral arteriography are highly sophisticated methods of evaluating arterial and venous anatomy and vascular pathology. Improved catheter and guidewire design, new contrast agents and technological advances such as digital subtraction, high resolution radiographic and fluoroscopic imaging systems, and multi-angle arteriographic configurations, have made diagnostic arteriography more complex, but also safer for patients. Moreover, the methods of diagnostic peripheral and visceral arteriography are fundamental prerequisites for more complicated vascular interventions such as transluminal angioplasty, atherectomy, embolotherapy, and various selective arterial infusion therapies.

Institutions offering peripheral and visceral arteriography should insist on documentation of appropriate training, demonstrated competence, and maintenance of skills for all physicians who receive privileges to perform these procedures.

#### **A. The Physician**

Physicians applying for privileges in diagnostic visceral and peripheral arteriography must demonstrate evidence of training and competency in these procedures obtained during an accredited residency or fellowship training program. Adequate training should include a minimum of three months of concentrated experience during which time 50 peripheral and visceral arteriographic procedures must be performed so that the director can certify that the physician is proficient in the performance of the procedures. A log book should be used to record all cases performed by the physician in training. Instruction in all of the following areas should be substantiated in writing by the director of the training program.

1. Anatomy, physiology and pathophysiology of peripheral and visceral arterial disease.
2. Pharmacology of different contrast agents.
3. Pre-procedural assessment of the patient.
4. Percutaneous catheter introduction by the Seldinger technique from both femoral and distal axillary or brachial artery approaches.
5. Technical aspects of performing the procedure, including the use of different catheter and guidewire systems, appropriate injection rates and volumes of contrast media, and filming sequences. Training in selective arteriographic methods is mandatory for optimal arteriographic procedures.
6. Interpretation of peripheral and visceral arteriographic studies.
7. Familiarity with fluoroscopic and radiographic equipment, mechanical injectors, rapid film changers, digital subtraction, and other electronic imaging devices.
8. Hemodynamic monitoring and intra-arterial pressures.
9. Radiation physics to include an understanding of the production, detection and risks of radiation exposure.

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10. Post-procedural patient management, especially recognition and initial management of complications.

Physicians whose residency training did not include the above may still be considered for initial privileges in peripheral and visceral arteriography, if they have performed 50 peripheral and visceral arteriographic catheterization procedures, with documented acceptable success and complication rates.\*\*

### **Maintenance of Privileges**

In order to maintain privileges, physicians must perform a sufficient number of arteriographic procedures to maintain their skills, with acceptable success and complication rates. Continued privileges should be dependent on participation in a quality improvement program which monitors these rates, as stipulated by the Joint Commission on Accreditation of Healthcare Organizations. Regular attendance at post-graduate courses which provide continuing education on diagnostic advances, newer techniques and equipment is necessary.

### **B. The Arteriography Facility**

The facility should include as a minimum the following:

1. A high-resolution imaging intensifier and television chain, as well as standard arteriographic filming capabilities, including rapid serial films of at least 14 inches in diameter. Digital subtraction capabilities are highly desirable as they allow decreased contrast volumes and less cardiovascular disturbances during arteriography.
2. An adequate selection of catheters, guidewires, and introducer systems.
3. There must be adequate facilities for EKG monitoring and for cardiac resuscitation.
4. Radiologic technologists who are trained to operate arteriographic equipment and are knowledgeable in radiation physics and protection.
5. Staff capable of assisting with procedures, monitoring patients, and providing appropriate patient support.

### **C. Surgical Support**

Although complications of peripheral and visceral arteriography only rarely require urgent surgery, these procedures should be performed in an environment where operative repair can be instituted promptly.

### **D. Quality Improvement**

Procedures should be monitored as part of the overall quality improvement program of the facility. Incidence of complications and adverse events should be recorded and periodically reviewed for the opportunity to improve care.\*

### **E. Informed Consent**

Prior to procedure, informed consent shall be obtained, if possible.